

In re: Deok-Hyung Lee et al.
Serial No.: 10/801,614
Filed: March 16, 2004
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REMARKS

Applicants appreciate the continued thorough examination of the present Request for Continued Examination (RCE) and the courtesies and insight provided to the undersigned by Examiner Dickey in a telephone interview on March 6, 2006. During the telephone interview, the Examiner suggested that the independent claims should be reformulated to describe the relationship between the device isolation layer and the punch-through stop layer, rather than between the channel region and the punch-through stop layer, to better conform to embodiments of the invention that are illustrated, for example, in Figures 3-5 of the present application. The present Amendment constitutes Applicants' sincere attempt to do so. Applicants appreciate the Examiner's guidance during the telephone interview. The above constitutes a complete summary of the telephone interview between the Examiner and the undersigned on March 6, 2006 pursuant to MPEP §713.04.

In response, Claims 1 and 13 have both been amended to recite:

a device isolation layer on the substrate including
respective portions that extend to a respective opposing sidewall of
the fin to define an opening in the device isolation layer.

Referring, for example, to Figure 4 of the present application, the device isolation layer 56 is on the substrate 50, and includes respective portions, shown at the left side and right side of Figure 4, respectively, and extend to a respective opposing sidewall S of the fin 54a, to define an opening in the device isolation layer 56 that is shown in the middle of Figure 4.

Claim 1 has also been amended to recite:

a punch-through stop layer in the opening between the
portions of the device isolation layer, the punch-through stop layer
having a higher doping concentration than the sidewalls of the fin
in the channel region.

Referring to Figure 5 of the present application, the punch-through stop layer 62 is shown to be in the opening in the device isolation layer 56. Remaining independent Claim 13 has been amended similarly.

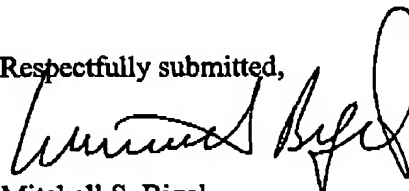
In sharp contrast, in U.S. Patent 6,525,403 to Inaba et al., Figures 6-10, the heavily doped regions 17 are formed in the substrate 11 beneath the device isolation insulating film 12, as noted, for example, in Inaba et al. Column 4, lines 55-62. Stated differently, Inaba et al.'s heavily doped regions 17 do not extend in the opening in the

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device isolation insulating film 12. Accordingly, the recitations of Claims 1 and 13 are not described or suggested by Inaba et al. The dependent claims are patentable at least per the patentability of the independent claims from which they depend. Moreover, Claim 16 has been amended for consistency with amended Claim 13.

In conclusion, Applicants appreciate the Examiner's insight and suggestions. Independent Claims 1 and 13 have been amended to relate the device isolation layer and the punch-through stop layer in a manner that is not described or suggested by Inaba et al. Accordingly, Applicants respectfully request allowance of the present application.

Respectfully submitted,

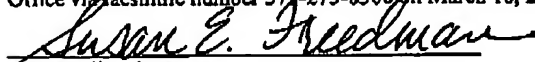


Mitchell S. Bigel
Registration No. 29,614
Attorney for Applicants

Customer Number 20792
Myers Bigel Sibley & Sajovec, P.A.
P.O. Box 37428
Raleigh, NC 27627
919-854-1400
919-854-1401 (Fax)

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Susan E. Freedman
Date of Signature: March 10, 2006